

REMARKS/ARGUMENTS

In view of the arguments that follow, applicant respectfully submits that all of the pending claims are in condition for allowance.

5 Rejection of Claims 1, 7 and 8 Under 35 U.S.C. § 103(a) as being Unpatentable over Cuenca et al (Plant Cell, Tissue and Organ Culture 60: 213-220 (2000))) in view of Saul et al (Forest Research Note No. 33, Ministry of Natural Resources, Ontario, Canada, 1982).

10 The Examiner argues that it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the method of Cuenca et al by using a log as disclosed by Saul et al so as to have a practical way of propagating cuttings of alder with both shoots and roots so as to increase the developmental speed of improved genotypes.

15 It is well established that if a proposed modification would render a prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification. *See, In re Gordon*, 733 F2d 900, 221 USPQ 1125 (Fed. Cir. 1984). As described more fully herein, Applicant submits that modifying the Cuenca et al method to incorporate the use of a log would render the Cuenca et al method unsatisfactory for its intended purpose.

20 Cuenca et al. discloses an *in vitro* method of regenerating adventitious buds from internode segments of Beech shoots. As described in the paragraph bridging the first and second columns of page 214 of the Cuenca et al. publication, beech shoot cultures were maintained in 500 ml glass jars containing 80 ml of a shoot proliferation medium.

25 As described in the paragraph headed "Adventitious bud induction," internodal segments of the shoot cultures were excised from the donor shoot and divided into 2 to 3 millimeter-long segments which were placed horizontally in 90 X 15 mm Petri dishes containing 25 ml of bud induction medium to promote the formation of adventitious buds. Callus formed on the internodal segments, and adventitious shoot-buds formed on the callus. (*see, e.g.,* Cuenca et al, page 215, last paragraph of second column, "Callus formation appears to be an essential step in the regeneration of adventitious buds in *Fagus*.").

 The Examiner proposes replacing the 2 to 3 millimeter-long internodal shoot segments with the cuttings described by Saul et al. The Examiner characterizes the cuttings

used by Saul et al. as logs. The cuttings used by Saul et al. were 10-16 cm long and collected from 20 to 25 year old trees (see Saul et al., page 1, paragraph headed "Materials and Methods").

Applicant submits that cuttings from 20 to 25 year old trees (as used by Saul et al) are physiologically different from internodal segments of shoots that have been continuously cultured on growth medium *in vitro*. Consequently, Applicant submits that it cannot be inferred that the method of Cuenca et al would produce adventitious buds, then shoots, from the cuttings used by Saul et al. In this regard, applicant notes that Cuenca et al disclose that,

"[t]he regeneration rates [of adventitious buds] achieved by internode explants were similar or higher to those found in leaf sections (citations omitted). Leaf sections exhibited a higher incidence of browning and necrosis, which reduced the efficiency of the regenerative system based on leaf explants." (Cuenca et al, page 220, first full paragraph of first column).

Thus, Cuenca et al teach that the ability of different parts of a Beech plant (*e.g.*, stem internode sections versus leaves) are not equally amenable to the production of adventitious buds.

Further, Applicant submits that it would be impractical to culture 10-16 cm long cuttings on medium *in vitro*. For example, a large and cumbersome container would be required to culture the 10-16 cm long cuttings. Moreover, applicants note that the logs typically used in the practice of the present invention "are typically between twelve inches and twenty four inches long, typically have a diameter between one inch and two inches, and typically have a generally cylindrical shape." (instant specification at page 3, lines 10-12). Applicants submit that it would be very impractical, if not impossible, to culture, *in vitro*, logs having the foregoing dimensions.

Consequently, Applicant submits that modifying the Cuenca et al method to incorporate the use of a log would render the Cuenca et al method unsatisfactory for its intended purpose. Applicant respectfully requests that the rejection of Claims 1, 7, and 8,

under 35 U.S.C. § 103(a) as being unpatentable over Cuenca et al. in view of Saul et al., be withdrawn.

Rejection of Claims 2-6, 9, 10 and 13 Under 35 U.S.C. § 103(a) as being Unpatentable over Cuenca et al in view of Saul et al and further in view of Bryan et al (HortScience, 26(4):389-390 (1991)).

For the reasons set forth in connection with the rejection of Claims 1, 7 and 8 as being unpatentable over Cuenca et al in view of Saul et al, Applicant submits that Claims 2-6, 9, 10 and 13 are not unpatentable over Cuenca et al in view of Saul et al and further in view of Bryan et al.

Applicant respectfully requests that the rejection of Claims 2-6, 9, 10 and 13 under 35 U.S.C. § 103(a) be withdrawn.

Rejection of Claims 11 and 12 Under 35 U.S.C. § 103(a) as being Unpatentable over Cuenca et al in view of Saul et al and further in view of Bryan et al and further in view of Applicant's Specification.

For the reasons set forth in connection with the rejection of Claims 1, 7 and 8 as being unpatentable over Cuenca et al in view of Saul et al, Applicant submits that Claims 11 and 12 are not unpatentable over Cuenca et al in view of Saul et al and further in view of Bryan et al and further in view of Applicant's specification.

Applicant respectfully requests that the rejection of Claims 11 and 12 under 35 U.S.C. § 103(a) be withdrawn.

Rejection of Claim 14 Under 35 U.S.C. § 103(a) as being Unpatentable over Cuenca et al in view of Saul et al and further in view of Wang (HortScience, 25(12):1602-1604 (1990)).

For the reasons set forth in connection with the rejection of Claims 1, 7 and 8 as being unpatentable over Cuenca et al in view of Saul et al, Applicant submits that Claim 14 is not unpatentable over Cuenca et al in view of Saul et al and further in view of Wang.

Applicant respectfully requests that the rejection of Claim 14 under 35 U.S.C. § 103(a) be withdrawn.

CONCLUSION

In view of the foregoing arguments, applicant submits that all of the pending claims are in condition for allowance. Reconsideration and favorable action are requested.

Respectfully submitted,

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